## **Ebbinghaus**

clothing store

sunshades to reduce cooling loads

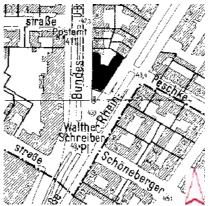
## building

The Ebbinghaus store is located on the northern edge of the Walter-Schreiber-Platz. Unlike most clothing stores the facade of the salesroom is completely glazed. Fixed exterior sunshades reduce cooling loads of the HVAC-system.

## daylight strategy

The concept of the original design was to provide the customers with a nice view to the outside while buying new clothes. However, the high light contrast between the outside and the inside made the interior seem dark and unpleasant resulting in the merchandises looking less attractive. Consequently filters and obstructing elements were incorporated into the South facade to reduce and to smoothen the daylight. Today the large glass front permits almost no light and the view to the outside is obstructed completely. The building depends on electric lighting and has high cooling loads. Despite this considerable energy consumption the building does not provide the occupants with a comfortable indoor climate. Altogether this example shows how occupants react, if a daylight strategy does not perform well.

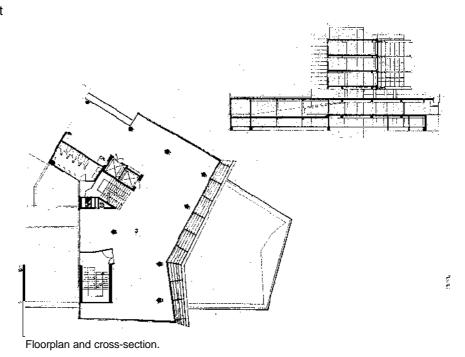
Berlin, Germany 52,5°N, 13,2°E predominantly cloudy



The Ebbinghaus - store is situated on the corner of Rheinstraße and Bundesstraße in the suburb of Steglitz.



south facade of the Ebbinghaus store. Sunshades are a dominant element of the building's facade.

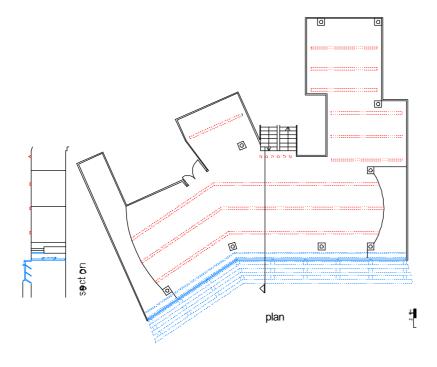




Daylight is excluded by a number of systems. The salesroom depends on electric lighting, the view to the outside is obstructed.



Detail of the South facade showing elements that have been introduced to reduce and to smooth daylight.



## building data . . . . . .

size 3 200 m<sup>2</sup>

number of stories

architect Hans Schäfers

year of completion 1962

salesroom

daylight strategy sidelighting

8,0 m / 23,0 m / 3,0 m

dimensions (depth/width/height)

room area 270 m²

carpet, brown, 30%

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timber veneer, 30% wall

column timber veneer, 30%

plastic lining, white, 60% ceiling

built-in furniture timber veneer, 30%

anodized aluminum, silver, 80% window frame

window double, float

lamp types fluorescent lamps

installed power density 26 W/m<sup>2</sup>

control strategy manual switching

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data	orientation	172°/207°			07°	272°
	glazed area	45,3 m <sup>2</sup>				6,8 m <sup>2</sup>
	opening index			C	,65	0,17
funct <b>io</b> n	daylighting				•	•
	view outside				•	-
	ventilation				-	-
	operable				•	-
	shading				•	-
	redirection				-	-
systems		s <b>apa</b> dsuns	translucent ylazing	interior blinds	rnirror lamellas	
function systems	sun shading	•	-	•	-	
	glare protection	•	-	•	•	
	redirection	-	-	-	-	
location	inside	-	-	•	•	
	window pane	-	•	-	-	
	outside	•	-	-	-	
	movable	-	-	•	-	
	fixed	•	•	-	•	